LISTING OF CLAIMS

Claims 1 - 42 (canceled).

43. (currently amended) A method of producing a parametric ultrasonic wave to be decoupled in air to create a decoupled audio wave that more closely corresponds to an audio input signal, the method comprising:

(a) ascertaining a linear response over a predefined frequency range of an acoustic output of an electro-acoustical emitter configured to be used for parametric ultrasonic output; and

(b) creating a parametric ultrasonic processed signal by adjusting linear parameters of at least one sideband frequency range of a parametric ultrasonic signal to compensate for the linear response of the acoustic output of the electro-acoustical emitter such that ~~the~~ content of an ~~the~~ audio input signal and that of a decoupled audio wave more closely correspond.

44. (currently amended) A method in accordance with claim 43, wherein the linear response is a function of physical characteristics of the electro-acoustical emitter and a ~~the~~ carrier frequency and a ~~the~~ sound pressure level and an environmental medium wherein the parametric ultrasonic wave is propagated.

45. (previously presented) A method in accordance with claim 43, wherein at least one linear parameter is selected from the group consisting of amplitude, directivity, time delay, and phase.

46. (previously presented) A method in accordance to claim 43, further comprising the step of providing an electro-acoustical emitter that includes an electrically sensitive and mechanically responsive (ESMR) film.

47. (previously presented) A method in accordance to claim 43, further comprising the step of pre-equalizing amplitudes of the parametric ultrasonic signal to compensate for a naturally occurring attenuation in amplitude of output waves over sideband frequency ranges on at least one side of a carrier signal frequency.

48. (currently amended) A method in accordance with claim 43, wherein the adjustment ~~correction~~ is an amplitude correction having a value between zero and one times a ~~the~~ magnitude of the amplitude value to which the adjustment ~~correction~~ is applied.

49. (currently amended) A method of producing a parametric ultrasonic wave to be decoupled in air to create a decoupled audio wave that closely corresponds to an audio input signal, the method comprising:

(a) ascertaining a linear response over a predefined frequency range of an acoustic output of an electro-acoustical emitter configured to be used for parametric ultrasonic output;

(b) setting a target acoustic modulation index for the parametric ultrasonic wave to a predetermined value;

(c) generating a parametric ultrasonic signal having an electrical modulation index that has been set at a higher level than the target acoustic modulation index to compensate for effects of the linear response of the electro-acoustical emitter; and

(d) emitting the parametric ultrasonic signal from the electro-acoustical emitter, resulting in the parametric ultrasonic wave being propagated having the target acoustic modulation index at least at a predefined point in space.

50. (previously presented) A method in accordance with claim 49, comprising the more specific step of generating the parametric ultrasonic signal having an electrical modulation index greater than one, wherein the target acoustic modulation index is less than one.

51. (previously presented) A method in accordance with claim 49, comprising the more specific step of generating a parametric ultrasonic signal having a single sideband.

52. (previously presented) A method in accordance with claim 49, comprising the more specific step of generating a parametric ultrasonic signal having double sidebands.

53. (previously presented) A method in accordance with claim 49, wherein the linear response of the acoustic output is a function of physical characteristics of the electro-acoustical emitter, electrical signal parameters and conditions in an environmental medium wherein the parametric ultrasonic wave is propagated.

54. (previously presented) The method according to claim 49, wherein the step of generating a parametric ultrasonic signal having an electrical modulation index that has been set at a higher level than the target acoustic modulation index includes (i) creating a parametric ultrasonic signal by modulating a carrier signal with an audio input signal and (ii) adjusting the electrical modulation index of the parametric ultrasonic signal.

55. (previously presented) The method according to claim 54, wherein the step of adjusting the electrical modulation index includes decreasing the amplitude of a carrier wave.

56. (previously presented) The method according to claim 54, wherein the step of adjusting the electrical modulation index includes adjusting the linear parameters of at least one sideband of the parametric ultrasonic signal.

57. (previously presented) The method according to claim 49, wherein the linear parameters are selected from the group consisting of amplitude, directivity, time delay, and phase.

58. (previously presented) The method according to claim 49, wherein the electro-acoustical emitter includes an electrically sensitive and mechanically responsive (ESMR) film emitter.

59. (currently amended) A method of producing a parametric ultrasonic wave to be decoupled in air to create a decoupled audio wave that closely corresponds to an audio input signal, the method comprising:

(a) providing an electro-acoustical emitter configured to be used for parametric output, wherein a linear response of an acoustic output from the electro-acoustical emitter is known over a predefined frequency range;

(b) providing the audio input signal and an ultrasonic carrier signal;

(c) parametrically modulating the audio input signal with the ultrasonic carrier signal, wherein a parametric ultrasonic signal results, comprising:

(i) the ultrasonic carrier wave;

(ii) an upper sideband; and

(iii) a lower sideband;

(d) creating a parametric ultrasonic processed signal by adjusting linear parameters of the parametric ultrasonic signal to compensate for effects of the linear response of the acoustic output from the electro-acoustical emitter; and

(e) emitting the parametric ultrasonic processed signal using the electro-acoustical emitter, resulting in the parametric ultrasonic wave having a modulation index that closely approximates a modulation index of the electrical parametric signal at least at a predefined point in space over at least one sideband frequency range.

60. (currently amended) A method in accordance with claim 59, comprising the more specific step of adjusting ~~the~~ linear parameters of the carrier wave so that the modulation index of the parametric ultrasonic wave is optimized at the predefined point in space.

61. (previously presented) A method in accordance with claim 59, wherein the linear parameters are selected from the group consisting of amplitude, directivity, time delay, and phase.

62. (previously presented) A method in accordance with claim 59, comprising the more specific step of providing an electro-acoustical emitter comprised of an electrically sensitive and mechanically responsive (ESMR) film emitter.

63. (currently amended) A method for improving fidelity in parametric audio reproduction of content of an audio signal in an air medium, comprising:

determining a typical amplitude response over a selected frequency range including at least a portion of each of ~~the~~ upper and lower sideband frequency ranges of a parametric emitter of a selected design and selected parameter values, including at least one carrier frequency and at least one output sound pressure level;

determining any difference in sideband response over the upper and lower sideband frequency ranges;

determining any amplitude correction needed to account for any difference in sideband response over at least a portion of said frequency ranges within the selected frequency range for said emitter;

providing for applying any needed amplitude correction to a modulated ultrasonic carrier signal configured to be reproduced in an emitter of the selected design using said selected parameter values over at least a portion of at least one of the upper and lower sideband frequency ranges within the selected frequency range to correct for said difference in response of such emitter over the upper and lower sideband frequencies, giving lower distortion of the content of the audio signal when

reproduced in an air medium.

64. (previously presented) A method in accordance with claim 63, wherein the step of providing for applying any needed amplitude correction further comprises the more specific step of applying a correction greater than zero and less than one times the magnitude of the amplitude value to which the correction is applied.

65. (currently amended) A method for improving the fidelity of parametric audio reproduction of content of an audio signal in an air medium, comprising the steps of:

characterizing a ~~the~~ sideband amplitude response of a parametric emitter

applying a correction in generating a modulated carrier signal for parametric reproduction of ~~said~~ content of an audio signal which accounts for asymmetry in sideband response of said emitter.